

# Industrial Ice Maker

## for Chip Ice - BUCO Ice Pack

Making ice  
for half  
the price!



### APPLICATION FIELDS

Industrial chilling with peak loads

- Production of food
- Dairies
- Breweries
- Production of soft drinks

Chilling in the production of

- Concrete
- Chemicals
- Pharmaceuticals

## EFFICIENCY

The efficiency of the dynamic ice making is based on the big evaporator surface, which allows much more efficient evaporation temperatures compared to other systems that use small evaporator drums and mechanical scraper.

Drum systems work with evaporation temperatures between -20°C and -30°C.

The BUCO-Ice Pack works between -8 and -10 °C. That saves energy for electrical drives and allows to make ice for about half the price.

## ICE HARVESTING

When the ice falls from the evaporator, it breaks to pieces which pass a separator for water.

Afterwards the ice is crushed to small pieces by using a rotating ice crusher:

The crushed ice falls downwards below the ice maker on the whole length of the system and is ready for transport to any industrial process via conveyor belt or a screw conveyor. The exit height may be adjusted by a scaffold.

The size of the ice pieces and the ice thickness can be preadjusted steplessly.

## MAKING ICE

Ice is frozen on vertical evaporator panels and forms a thin layer of ice, which keeps the resistance of heat conductivity always at a low level. Normally the ice thick is 6 – 8 mm, but it can be adjusted steplessly from 3 to 10 mm depending on the application. After some minutes of building up ice, an automatic plc system will give a signal for hot gas injection for some seconds in order to split off the ice.

## EXAMPLE:

30 to ice/day, Price for electricity: 0,15 €/kWh el

### Running costs at -30 °C - Drum system:

324 €/day or 11 € / to ice

### Running costs at -10 °C BUCO Ice Pack:

173 €/day or 6 € / to ice

### Savings: 151 € / day::

For 300 days production: 45.300,- € / year savings of electricity costs!

## APPLICATION AND BENEFIT

- Consumable ice for direct cooling of products
- Increasing of cooling effect by direct contact with ice

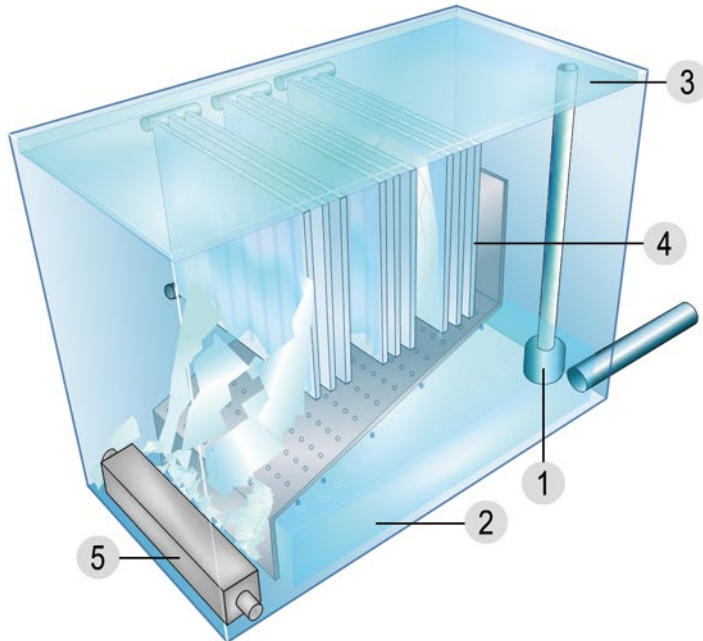
## SPECIFICATION

- Chip ice, not subcooled, no sharp edges
- 5 - 150 to ice/day (or 200 - 6200 kg/h)
- Refrigerating power 20 - 650 kW
- Ready to plug or for local refrigeration units
- Evaporator for all refrigerants, pump- or dx-mode
- Stainless steel completely

## DESIGN AND DIMENSIONS

TYPICAL MEASUREMENTS	L	W	H
Compact - system	2,5	0,8	2,3
System type A	2,5	1,0	3,3
System type B	2,5	2,5	3,3
(without refrigeration, including separator and crusher )			

## CONSTRUCTION OF THE ICEMAKER



- (1) Water pump
- (2) Tank
- (3) Water distribution system
- (4) Ice harvester
- (5) Ice crusher

## ADVANTAGES

- Low running costs:
  - Low electric consumption due to high evaporation temperature
- Ice maker in stainless steel completely
- Durability
- Reliability
- Chip ice – some cm big:
  - Ideal ice temperature of  $-0,5^{\circ}\text{C}$ , not sub-cooled
  - Dull edges
  - Suitable for sensitive products
  - Nearly no clogging of ice when stored
  - Long lasting cooling effect
  - Steplessly adjustable thickness of ice chips

*“BUCOdelot Falling Film ice makers for more than 20 years.”*  
*“More than 200 BUCOdelot ice makers in operation”*

## REFRIGERATION AG

Gotthardstrasse 27, 6302 Zug, Switzerland  
Phone: +41 (0) 3131024 -18 sales@refrigeration-ag.com  
Fax: +41 (0) 3131024 -19 www.refrigeration-ag.com